

**IN THE SPECIFICATION:**

Amend the specification as follows:

Page 1, after line 2, and the title, insert the following new paragraph:

The present application is a divisional of application Serial No. 09/897,412, filed July 3, 2001, which claims benefit of United Kingdom 0016441.8, filed July 4, 2000, the entire contents of each of which are hereby incorporated by reference.

Delete the paragraphs spanning page 8, line 10 – page 9, line 2, and insert the following therefor:

Figure 2 shows differential expression of mRNA of the secretin receptor in control and CF lung regions. C<sub>t</sub> refers to the fractional PCR cycle number at which a PCR product is first detected as further described herein.

Figure 3 shows mRNA expression of GAPDH in control and lung CF regions. C<sub>t</sub> is defined above.

Figure 4 shows differential expression of mRNA of the secretin receptor in control and CF lung regions from a sample of 16 control and 25 CF tissue donors. C<sub>t</sub> is defined above.

Figure 5 shows that secretin stimulates ionic movement in the non-CF tertiary bronchus. Time points "a", "b" and "c" are described further in Example 2.

Figure 6 shows that secretin stimulates non-CTFR dependent ionic movement in confluent monolayers of primary human tertiary bronchial epithelial cells derived from non-CF donors. Time points "a" and "b" are further described in Example 2.

Figure 7 shows that secretin stimulates ionic movement in the human CF tertiary bronchus. Time points "a" and "b" are described in Example 3.

Figure 8 shows the effect of secretin on chloride ion efflux in primary human tertiary bronchial epithelial cells derived from non CF donors. A detailed description of the samples is provided in Example 4.

Figure 9 shows the levels of NeuroD mRNA in tertiary bronchus and lung parenchyma of CF patients. Ct is defined above.

Page 13, delete the paragraphs spanning lines 8-28 and insert the following therefor:

For example, Gespach et al (1986) describe four synthetic secretin analogues including one corresponding to porcine secretin substituted at the N-terminus by sequence portions of vasoactive intestinal peptide (VIP), i.e. Ala4-Val5-pSN, together with Tyr1-Ala2-Glu3-pSN, Gln3-pSN, Phe1-Phe2-Trp3-Lys4-pSN (SEQ ID NO:13). Konig et al (1977) describe Ala4-pSN. Gardener et al (1976) describe the secretin fragment SN5-27 and three variants thereof, (9Gln-SN5-27, I5Asn-SN5-21 and 9Gln-I5Asn-5N5-27). 15-Lys-SN has also been described in the art (Gardener et al, 1979) . Haffer et al (1991) describe eight secretin variants with reduced peptide bonds (the -CONH- bond being replaced by -CH2-HN-) between one of the eight N-terminal peptide bonds. Robberecht et al (1988) describe secretin fragments 2-27, 3-27, 5-27 and 7-27 and observed activity for secreting receptors. Konig et al (1986) exchanged the N-terminal 5 amino acids of a secretin for the N-terminal pentapeptide sequence of human

somatotropin releasing factor to provide I-Tyr-2,4-diAla-5-Ile-SN, which showed secretin activity. Other active variants made were 3-L-Cystic acid-SN, 6-D-Phe-SN, 5-Allo-Thr-SN, and I-Cys-6-Cys-SN.

Delete the paragraph spanning page 28, line 17 – page 29, line 2 and insert the following therefor:

Functional effects of the secretin receptor were probed in epithelial cells derived from the human tertiary bronchus. In brief, tertiary bronchial epithelial were isolated by overnight protease digestion and then cultured until confluence on Snapwell (Costar) permeable supports. The supports were mounted in a modified Ussing chamber, and both luminal and basolateral membranes were bathed in oxygenated Krebs extracellular solution. The cells were voltage clamped to zero to allow changes in short circuit current I<sub>sc</sub> in response to secretin to be measured. As previously described, 10  $\mu$ M amiloride was initially added to the luminal membrane (Figure 6, point a) followed by the addition of 100 nM secretin to the luminal membrane (Figure 6, point b). A time matched, amiloride-treated control is denoted by the thin trace. Consistent with observations in the tertiary bronchus, secretin stimulated ionic movement in a manner consistent with the movement of a negatively charged ion (Cl<sup>-</sup> and / or HCO<sub>3</sub><sup>-</sup>). Furthermore, addition of 500  $\mu$ M glibenclamide, a recognised inhibitor of the CFTR failed to suppress secretin mediated ionic movement, suggestive that a similar ionic movement would be observed in CF tertiary bronchial epithelial cells.

Insert the attached Sequence Listing after the figures.

**In re Application of: DAVIS et al**  
Cont/Div of Serial No. 09/897,412  
April 13, 2004

**IN THE FIGURES:**

Amend the figures by inserting the attached nine (9) sheets of formal drawings in place of the originally-filed figures.